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REMARKS

Applicants respectfully request reconsideration and allowance in view of the foregoing amendments and following remarks. In the Office Action, mailed July 17, 2003, the Examiner rejected claims 1-12 and 15-25. By this amendment, claims 1 and 17 have been amended and claims 13, 14 and 26-31 have been withdrawn from consideration. Following entry of these amendments, claims 1-12 and 15-25 will be pending in the application.

Specification Formalities

In the Office Action, the Examiner objected to the specification for certain informalities relating to updating the serial numbers of incorporated-by-reference patent applications. Applicants have proposed the necessary specification amendments. Applicants respectfully request acceptance and entry of the proposed corrections and withdrawal of the objections.

Withdrawn Claims

Applicants have withdrawn from consideration claims 13, 14 and 26-31, because the Examiner indicated that there is no allowable generic or linking claim. However, Applicants assert that in view of the foregoing amendments and following remarks, independent claim 1 is allowable over the art of record and is generic to all withdrawn species.

Applicants respectfully request that, upon the allowance of claim 1, the Examiner consider allowing the non-elected species as embodied in withdrawn claims 13, 14 and 26-31.

Claim Rejections under 35 U.S.C. § 112 (Second Paragraph)

In the Office Action, the Examiner rejected claims 1-12 and 15-25 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Specifically, the Examiner noted numerous antecedent problems with phrases within some of the claims, all of which are addressed below.

Claim 1

The Examiner noted that "an antenna" in claim 1 on line 6 was indefinite as compared to

"an antenna" in the preamble of claim 1. The Examiner also noted in claim 1 that the phrase "the design dimensions" on line 3 lacked proper antecedent support.

Applicants have amended claim 1, line 6, to change "an antenna" to --the antenna--.
Applicants have also amended claim 1, line 3, to change "the design dimensions" to --design dimensions--.

Claims 2

The Examiner noted that "the operating wavelength" on line 1 of claim 2 lacked proper antecedent support. Applicants respectfully traverse this rejection, because claim 1 at lines 3-4 provides proper antecedent support for this phrase.

Claims 3

The Examiner noted that "the stem area" on line 3 of claim 3 lacked proper antecedent support. Applicants respectfully traverse this rejection, because claim 1 at line 8 provides proper antecedent support for this phrase.

Claims 4

The Examiner noted that "the center" on line 2 of claim 4 lacked proper antecedent support. Applicants respectfully traverse this rejection, because claim 1 at lines 3-4 provides proper antecedent support for this phrase.

Claim 17

The Examiner noted that "capable of operating as an antenna" in claim 17 on line 2 was not a positive limitation. Applicants have amended claim 17 at line 2, to change "an antenna" to --the antenna--.

✓
Therefore, for at least the foregoing reasons, Applicants respectfully request withdrawal of the §112, second paragraph, rejections of claims 1-12 and 15-25.

Claim Rejections under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 1, 3-12 and 15-25 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,181,044 to Matsumoto, et al. (hereinafter, "Matsumoto"). Further, the Examiner rejected claim 2 under 35 U.S.C. §103(a) as

allegedly being unpatentable over Matsumoto, et al. in view of prior art in Applicants' specification. Applicants respectfully traverse the rejections of claims 1-12 and 15-25 and note for subsequent reference the following standards for a proper §103(a) rejection. |

A §103(a), or obviousness, rejection is proper only when "the differences between the
② subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains." 35 U.S.C. §103(a). The Examiner must make out a prima facie case for obviousness. The underlying inquiries into the validity of an obviousness rejection are: "(1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness." *In re Dembiczak*, 175 F.3d 994, 998, (Fed. Cir. 1999).

Independent Claim 1

Applicants' independent claim 1 comprises, *inter alia*, forming an antenna for mounting onto a printed circuit board out of a unitary piece of material, where the unitary piece includes a side-stem that is mounted directly onto a transmission feed of the printed circuit board.

For the reasons stated below and taking into consideration the standards for obviousness presented above, Applicants assert that one of ordinary skill in the art would not have considered Applicants' invention obvious at the time of invention and, therefore, that Applicants' rejected independent claim 1 is not obvious over the prior art of record.

Reb → First, nowhere does Matsumoto disclose or suggest the method of manufacturing an antenna of Applicants' invention. In rejecting independent claim 1, the Examiner uses Figure 5 of Matsumoto. Figure 5 of Matsumoto illustrates a top-loaded antenna having a top load plate 10B connected to a bottom ground plate 20B. Matsumoto connects the top and bottom plates using a shortline stem 30B. Matsumoto feeds signals to the top load plate 10B using a separate coaxial feedline 40. Applicants' invention of independent claim 1 does not use a separate coaxial feedline, as is required in Matsumoto. Further, for proper operation of the Matsumoto antenna, the shortline stem 30B must be used for connecting the top load plate 10B to the bottom ground plate 20B. Without the separate coaxial feedline 40, the Matsumoto antenna would be inoperable. Therefore, Matsumoto actually teaches away from using a stem mounted directly to a feedline of a printed

circuit board.

Second, nowhere does Matsumoto disclose or suggest the side-stem antenna configuration of Applicants' invention. Fig. 5 of Matsumoto (and all other Matsumoto antenna configurations) illustrated the center, shortline stem 30B necessary for proper antenna operation (in connection with the separate coaxial feedline 40). Applicants' invention of independent claim 1, as illustrated in Figures 2-4 of Applicants' specification, uses a side stem configuration.

Third, as is generally known in the art of high frequency antenna operation, design parameters for an antenna cannot be trivialized (e.g., size, shape, thickness, material, feedline location, etc.). The Matsumoto antenna embodiments are all designed "to cover a UHF frequency of 900 MHz." (Matsumoto, col. 3, ll. 37-38). Changes in size, shape, material or configuration of the Matsumoto antenna will likely create an antenna that does not function properly within 900 MHz designed-to specification.

Reb → Finally, nowhere does Matsumoto disclose or suggest that the side-stem antenna is designed to mount to the printed in a matched-impedance manner. In contrast, Applicants' invention is designed to closely match the impedance of the side-stem antenna to the impedance of the printed circuit board's mounting feedline. (for example, see, Applicants' Specification, p. 20, l. 2, through p. 21, l. 10).

N-T claimed
Therefore, for at least these reasons, Applicants request the withdrawal and reconsideration of the claim rejection for independent claim 1. Applicants respectfully submit that independent claim 1 is in a condition for allowance, and respectfully request a Notice to that effect.

Dependent Claims 2-12 and 15-25

Dependent claims 2-12 and 15-25 ultimately depend from independent claim 1. The allowability of dependent claims 2-12 and 15-25 thus follows from the allowability of independent claim 1; as such, dependent claims 2-12 and 15-25 are allowable over the art of record.


Therefore, for at least these reasons, Applicants request the withdrawal and reconsideration of the claim rejection for dependent claims 2-12 and 15-25. Applicants respectfully submit that dependent claims 2-12 and 15-25 are in a condition for allowance, and respectfully request a Notice to that effect.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition of allowance and a Notice to that effect is earnestly solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

CHARGE STATEMENT: The Commissioner is hereby authorized to charge fees that may be required relative to this application, or credit any overpayment, to our Account 03-3975, Order No. 073169-0278126 (ATH-054).

Respectfully submitted,
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